

## Systems Engineer Advocates Gradual Elimination of Progress Payments

**T**he following is my position, in imprecise laymen's terms, based not on formal statistical analysis, but on my own personal experience. I believe that the U.S. Government contract policy of issuing progress payments on fixed price contracts results in a loss of quality and efficiency.

In the United States and in other countries, the value of a company is determined by the free market economy. A company, its owners, and its employees are directly and indirectly motivated by stock price. In general, the owners of a company are the stockholders.

Historical stock prices for companies have an extremely high correlation to the historical predictions of earnings for that company. It can be speculated that the current stock price for a company is based on the present analyst(s)' prediction(s) of present and future earnings for that company. Earnings — past, present, and future — can be significantly impacted by leverage.

Financial leverage and physical leverage are fundamentally the same. Just as one might use a crow bar or lever to increase the effectiveness of one's physical strength, companies use financial leverage to increase their earnings strength. Financial leverage is obtained by using other people's money.

In the free marketplace, for nongovernment contracts obtaining debt provides leverage. Liability, which is capital proved by debt, leverages equity, which is capital provided by owners. Having more money increases a company's total assets and allows the company to do more work and obtain more return. The more assets a company has, the

better the company's chances are to be able to make a higher profit. Assets equal total liability plus total equity. In other words, "It takes money to make money."

Earnings are tracked and predicted in the form of earnings per share. Earnings per share is a ratio of total profit to only the equity portion of total assets. Since earnings per share is a ratio of total profits made from both liability and equity to only equity, earnings per share can increase significantly by increasing the amount of capital that is provided by liability.

Owners can increase the earning power of their money through the use of financial leverage, obtained from the capital market as debt. In the free market not influenced by government progress payments, leverage is obtained through debt. Free market, nongovernment contract companies borrow money via banks and bonds. These companies must pay interest on that money. In order for this to be profitable, one could logically deduce that these companies must achieve two very important things, or they may go bankrupt:

- First, these companies must produce and deliver a high-quality product that their customers want or they will not obtain the funding required to repay their debts.
- Second, these companies must produce their product in an efficient manner. To increase earnings per share through the use of leverage, these companies must be efficient enough so that the profit on the funds that they borrowed is greater than the interest they must pay on the funds

that they borrowed. This is a significant efficiency driver.

In the government contracts marketplace, a significant amount of leverage, sometimes as much as 80 percent of the total contract value, is obtained from the government in the form of progress payments. The government often provides a majority of the total price for the product before receiving the final working product. For many contracts, this ends up as debt-free, interest-free money for the company. In this marketplace, a company can still be profitable without taking the actions discussed earlier.

These companies no longer need to produce a high-quality product to ensure that it sells. Three good reasons for this follow:

- First, the company does not need to provide a quality product in order to receive the majority of payment from the government, because the government has already paid the company the majority of the total price in the form of progress payments.
- Second, by the time the contractor is ready to deliver, they are no longer required to deliver a top-quality product to obtain funds to repay funding used as their investment capital. This is because a large part of their investment capital has already been provided to them in the form of progress payments. Therefore, there is no need to deliver a quality product to produce capital to repay creditors to whom they would otherwise still be indebted.
- Third, for many reasons, including the recognition that in most cases the government has already paid the company most of the available money for the product, most government agencies no longer have the leverage to enforce delivery of a quality final product from the company.
- Fourth, these companies are not required to produce their product as efficiently because the funds they received from the government prior to final delivery are interest-free. Therefore, any amount of return or profit on this funding leads to higher earnings per share.

In government contracts, companies do not have to be as efficient to make a profit.

Although I would not advocate an immediate termination of progress payments, I would suggest a study to determine if it would be beneficial for government agencies to implement a policy that would gradually eliminate the use of progress payments.

Efficiency is the result of necessity. The free market creates necessity. When it comes to leverage, the government should no longer interfere with the free market.

**Cosmo Calobrisi**  
**General & Systems Engineer**  
**Air Armament Center**  
**Eglin AFB, Fla.**

In the Nov/Dec 1999 of *Program Manager* magazine, Paul Mcilvaine provides an excellent and valuable "road map" of the current DoD 5000 Series, summarizing the materiel acquisition life cycle process ("The Acquisition Chart," p. 38).

However, this article neglects to present the recent, much-touted, and well-publicized new materiel acquisition "initiative" of system Performance Specification-based Production.

This new procurement practice is illegal by FAR [Federal Acquisition Regulation] and DFARS [Defense Federal Acquisition Regulation Supplement] and other Laws and Statutes. It contradicts the theme and details of the DoD policy as described in this article. It attempts to violate fundamental scientific principles of design, producibility, and production engineering. It ignores principles and requirements for safe, quality, and effective modern manufacturing. It is extremely costly, provides no benefits to the government, and results can be highly dangerous to materiel producers and users (e.g., recent grounding of the Apache helicopters).

Nevertheless, this interesting and novel acquisition initiative is here. I respectfully and personally propose that it should have been included and presented as an "alternative," a less bureaucratic "road map." Especially so since this unofficial practice is claimed to fall under DoD's acquisition reform, streamlining, and reinvention initiative.

**Harold Chanin**  
Picatinny Arsenal, N.J.